



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/759,831

01/16/2004

Kenya Uomori

MTS-3185US4

4770

23122 7590 12/19/2006
RATNERPRESTIA
P O BOX 980
VALLEY FORGE, PA 19482-0980

EXAMINER

ALSOMIRI, ISAM A

ART UNIT

PAPER NUMBER

3662

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

12/19/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/759,831

Applicant(s)

UOMORI ET AL.

Examiner

Isam Alsomiri

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27, 28 and 35 is/are pending in the application.
- 4a) Of the above claim(s) 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-28 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/463,530.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rapoport et al US005519209A in view of Wahl "A coded light approach for depth map acquisition".
2. Rapoport discloses in figures 1-4 a camera for object extracting, having light-emitting means for irradiating an object with projected light (see col. 2 lines 28-30), for image-picking up reflected light of said light-emitting means from said object to obtain a depth image using light intensity of the image picked up (see col. 2 lines 35-38 and 51-53), recording media for recording the depth image (see col. 3 lines 3-8), comprising: object extracting means for extracting only an object which exists within a range of a distance denoted by the user by using the recorded depth image (see col. 2 lines 51-62 and col. 5 lines 29-44). Rapoport does not teach each projecting light having a specified radiation pattern. However, using projected light is well known to at least improve signal to noise ratio. Wahl teaches projecting light having a specified radiation pattern (see Abstract, and page 14). It would have been obvious to modify Rapoport to project a specified radiation pattern to obtain clearer images/shapes of the objects, and for better S-to-N ratio.

3. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rapoport et al US005519209A in view of Wahl "A coded light approach for depth map acquisition" as applied to claim 27 above, and further in view of Yahav et al US006057909A.

4. Rapoport is silent about extracting a color image for only an object which exists within a range of a distance denoted by the user. However, using a color sensor or a sensor with a color filter is well known. Yahav teaches an optical ranging camera and also teaches using color sensor to obtain a color image (see Abstract, col. 5 line 58 to col. 6 line 9). It would have been obvious to modify Rapoport to use a color sensor to obtain a color image for easier identification of the object.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rapoport et al US005519209A in view of Wahl "A coded light approach for depth map acquisition" as applied to claim 27 above, and further in view of Katayama et al US006404936B1 and Takaha US006021221A.

6. Rapoport teaches a display panel for displaying the extracted object (see col. 3 lines 3-8), deleting unwanted foreground or background in the image by changing the shutter time or the range gate (see col. 5 lines 45-57). Rapoport is silent about correcting a portion taken for the background or foreground by a malfunction in the extraction denoted by the user. However, extracting or deleting background/foreground or any other unwanted features in an image could be done by well known image

Art Unit: 3662

processing (editing). Katayama teaches an imaging processing tool or software that modifies an image to remove any erroneous or unwanted parts of the image like background/foreground or other parts (see col. 1 lines 9-12, 42-55, col. 3 lines 7-9, col. 5 lines 49-60). It would have been obvious to modify Rapoport to include the image processing step to extract or delete erroneous background or foreground by image processing for clearer images of object and faster processing. Further, controlling the operation by touching a panel instead of using a mouse for example is well known. Takaha teaches an image processing apparatus including a touch panel (see col. 9 lines 46-50). It would have been obvious to modify Rapoport to include the touch panel as an alternative method of input device for the user for faster input and control.

Response to Arguments

Applicant's arguments filed September 21, 2006 have been fully considered but they are not persuasive. Regarding claims 27, 28, and 35, applicant argues that "Rapoport et al. does not disclose or suggest recording media for recording a depth image and object extracting means which uses the recorded depth image to extract an object. **Rapoport et al. records a visual image of a scene at a certain depth.** Rapoport does not record a depth image". It is not clear what the applicant is arguing for since the applicant admits that "Rapoport et al. records a visual image of a scene at a certain depth" which reads on the new limitations "recording media for recording a depth image". Further, Rapoport teaches "For example the signal may be electronically analyzed, stored or display or processed using available image processing software. A

Art Unit: 3662

display application may process the signal into a standard RS-170 format and transfer it to a frame grabber, display and recorder" (col. 3 lines 3-8). Therefore, it is clear that the recording media is anticipated by Rapoport.

Therefore, the rejections are maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam Alsomiri whose telephone number is 571-272-6970. The examiner can normally be reached on Monday-Friday 8:00-5:00.

Art Unit: 3662

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Isam Alsomiri



December 9, 2006



THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600